

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) An error control method for a transmission channel, wherein a transmission of data units via said transmission channel is controlled in dependence on the sequence number of a preceding data unit not yet acknowledged, said error control method comprising the steps of;

a) defining a transmit window based on said sequence number of said unacknowledged preceding data unit,

b) allowing the transmission of a data unit only if the sequence number of said data unit lies within said transmit window;

c) estimating a transmission quality of said transmission channel by detecting a data unit erasure or loss by a receiver at the receiving end of said transmission channel; and

d) changing the transmission rate of acknowledgment messages in response to the detection of a data unit erasure or loss at the receiving end of said transmission channel, said step of changing including the steps of:

counting the number of data units that have been successfully received and generating a count value based on the number of data units that have been successfully received;

transmitting an acknowledgement message when said count value exceeds a predetermined threshold value; and

altering, at the receiver, a threshold condition for transmitting the acknowledgement message including one of increasing the count value by a predetermined value and decreasing said predetermined threshold value when a data unit erasure or loss is detected, wherein the predetermined value is greater than one.

2.-4. (canceled)

5. (currently amended) An error control method for a transmission channel, wherein a transmission of data units via said transmission channel is controlled in dependence on the sequence number of a preceding data unit not yet acknowledged, said error control method comprising the steps of;

a) defining a transmit window based on said sequence number of said unacknowledged preceding data unit,

b) allowing the transmission of a data unit only if the sequence number of said data unit lies within said transmit window;

c) estimating a transmission quality of said transmission channel by detecting a data unit erasure or loss by a receiver at the receiving end of said transmission channel; and

d) changing said transmission rate of said acknowledgment messages in dependence on a retransmission of a negatively acknowledged data unit, said step of changing including:

counting the number of unacknowledged data units that have been transmitted and generating a count value based on the number of unacknowledged data units;

polling for transmission of an acknowledgement message when said count value exceeds a predetermined threshold value; and

altering, at the receiver, a threshold condition for transmitting the acknowledgement message including one of increasing the count value by a predetermined value and decreasing said predetermined threshold value when it is detected that a negatively acknowledged data unit has been retransmitted, wherein the predetermined value is greater than one.

6.-7. (canceled)

8. (currently amended) A method according to claim 1, wherein said step of altering comprises increasing the count value by said predetermined value and said predetermined value is adjusted on the basis of at least one of a transmission rate of said data units, a size of said transmit window or a round-trip delay of said transmission channel.

9. (previously presented) A method according to claim 1, wherein said predetermined threshold value is adjusted on the basis of at least one of a transmission rate of said data units, a size of said transmit window or a round-trip delay of said transmission channel.

10. (previously presented) A method according to claim 1, wherein said transmission channel is an RLC connection for transmitting RLC data blocks in an uplink or downlink direction of a GPRS network.

11. (currently amended) An error control apparatus for performing a control so as to allow a transmission of data units via a transmission channel in dependence on the sequence number of a preceding data unit not yet acknowledged, said error control apparatus comprising:

a detecting apparatus for detecting a transmission quality of said transmission channel by detecting data unit erasure or loss at a receiving end of said transmission channel;

a counting unit for counting the number of data units that are successfully received and outputting a count value;

a comparator connected to said counting unit for receiving said count value and comparing said count value to a predetermined threshold value; and

a controller for changing the transmission rate of acknowledgment messages in response to the detection of a data unit erasure or loss by said detecting apparatus, said controller arranged and dimensioned for altering, at the receiving end of said transmission channel, a threshold condition for transmitting the acknowledgement message including one of increasing the count value by a predetermined value and decreasing said predetermined threshold value in response to detection of a data unit erasure or loss and transmitting an acknowledgement message when the count value exceeds the predetermined threshold value, wherein the predetermined value is greater than one.

12.-14. (canceled)

15. (previously presented) An error control apparatus for performing a control so as to allow a transmission of data units via a transmission channel in dependence on the

sequence number of a preceding data unit not yet acknowledged, said error control apparatus comprising:

a detecting apparatus for detecting a transmission quality of said transmission channel by detecting a negative acknowledgment message received at a transmission end of said transmission channel;

a counting unit for counting the number of unacknowledged data units that are transmitted by the transmission channel and outputting a count value;

a comparator connected to said counting unit for receiving said count value and comparing said count value to a predetermined threshold value; and

a controller for changing the transmission rate of acknowledgment messages in response to the retransmission of a negatively acknowledged data unit, said controller arranged and dimensioned for altering, at the receiving end of said transmission channel, a threshold condition for transmitting an acknowledgement message by one of increasing the count value by a predetermined value and decreasing said predetermined threshold value in response to retransmission of a negatively acknowledged data unit and polling for transmission of an acknowledgement message when the count value exceeds the predetermined threshold value, wherein the predetermined value is greater than one.

16.-17. (canceled)

18. (currently amended) An apparatus according to claim 11, wherein said controller is arranged to alter the threshold condition at the receiving end of the transmission channel by increasing the count value by said predetermined value, said controller being further arranged and dimensioned to adjust said predetermined value based on at least one of a transmission rate of said data units, a size of said transmit window or a round-trip delay of said transmission channel.

19. (previously presented) An apparatus according to claim 11, wherein said controller is arranged to adjust said predetermined threshold value based on at least one of a transmission rate of said data units, a size of said transmit window or a round trip delay of said transmission channel.

20. (previously presented) An apparatus according to claim 15, wherein said controller is arranged to perform a control such that a polling bit is set in the header of a data unit to be transmitted.

21. (previously presented) An apparatus according to claim 11, wherein said error control apparatus is arranged in a mobile station or a network element of a GPRS network.

22. (currently amended) A method according to claim 5, wherein said step of altering comprises increasing the count value by said predetermined value and said predetermined value is adjusted on the basis of at least one of a transmission rate of said data units, a size of said transmit window or a round-trip delay of said transmission channel.

23. (canceled)

24. (previously presented) A method according to claim 5, wherein said predetermined threshold value is adjusted on the basis of at least one of a transmission rate of said data units, a size of said transmit window or a round-trip delay of said transmission channel.

25.-26. (canceled)

27. (previously presented) A method according to claim 8, wherein said predetermined threshold value is adjusted on the basis of at least one of a transmission rate of said data units, a size of said transmit window or a round-trip delay of said transmission channel.

28.-30. (canceled)

31. (previously presented) A method according to claim 5, wherein said transmission channel is an RLC connection for transmitting RLC data blocks in an uplink or downlink direction of a GPRS network.

32.-33. (canceled)

34. (previously presented) A method according to claim 8, wherein said transmission channel is an RLC connection for transmitting RLC data blocks in an uplink or downlink direction of a GPRS network.

35. (previously presented) A method according to claim 9, wherein said transmission channel is an RLC connection for transmitting RLC data blocks in an uplink or downlink direction of a GPRS network.

36. (currently amended) An apparatus according to claim 15, wherein said controller is arranged to alter the threshold condition at the receiving end of the transmission channel by increasing the count value by said predetermined value, said controller being further arranged and dimensioned to adjust said predetermined value based on at least one of a transmission rate of said data units, a size of said transmit window or a round-trip delay of said transmission channel.

37. (canceled)

38. (previously presented) An apparatus according to claim 15, wherein said controller is arranged to adjust said predetermined threshold value based on at least one of a transmission rate of said data units, a size of said transmit window or a round-trip delay of said transmission channel.

39.-40. (canceled)

41. (currently amended) An apparatus according to claim 18, wherein said controller is arranged to alter the threshold condition at the receiving end of the transmission channel by increasing the count value by said predetermined value, said controller being further arranged and dimensioned to adjust said predetermined threshold value based on at least one of a

transmission rate of said data units, a size of said transmit window or a round-trip delay of said transmission channel.

42. (previously presented) An apparatus according to claim 27, wherein said controller is arranged to perform a control such that a polling bit is set in the header of a data unit to be transmitted.

43.-45. (canceled)

46. (previously presented) An apparatus according to claim 15, wherein said error control apparatus is arranged in at least one of a mobile station or a network element of a GPRS network.

47.-48. (canceled)

49. (previously presented) An apparatus according to claim 18, wherein said error control apparatus is arranged in at least one of a mobile station or a network element of a GPRS network.

50. (previously presented) An apparatus according to claim 20, wherein said error control apparatus is arranged in at least one of a mobile station or a network element of a GPRS network.

51.-54. (canceled)

55. (new) A method according to claim 1, wherein said step of altering a threshold condition comprises increasing the count value by a predetermined value.

56. (new) A method according to claim 1, wherein said step of altering a threshold condition comprises decreasing said predetermined threshold value.

57. (new) A method according to claim 5, wherein said step of altering a threshold condition comprises increasing the count value by a predetermined value.

58. (new) A method according to claim 5, wherein said step of altering a threshold condition comprises decreasing said predetermined threshold value.

59. (new) An apparatus according to claim 11, wherein said controller is arranged to alter the threshold condition at the receiving end of the transmission channel by increasing the count value by said predetermined value.

60. (new) An apparatus according to claim 11, wherein said controller is arranged to alter the threshold condition at the receiving end of the transmission channel by decreasing said predetermined threshold value.

61. (new) An apparatus according to claim 15, wherein said controller is arranged to alter the threshold condition at the receiving end of the transmission channel by increasing the count value by said predetermined value.

62. (new) An apparatus according to claim 15, wherein said controller is arranged to alter the threshold condition at the receiving end of the transmission channel by decreasing said predetermined threshold value.